

What is claimed is:

1. A method of building a redundancy list in a peer system in a peer-to-peer relay network, comprising:

5 receiving a first message including first identification information at a first peer system from a second peer system connected to said first peer system in a peer-to-peer relay network;

storing said first identification information;

10 receiving a second message including second identification information at said first peer system from a third peer system connected to said first peer system in said peer-to-peer relay network;

comparing said second identification information with said first identification information;

building a redundancy update message; and

15 sending said redundancy update message to said third peer system.

2. The method of claim 1, wherein:

wherein said second identification information is the same as said first identification information

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3. The method of claim 1, wherein:

a message includes data to be relayed, an origin identifier, a sequence value, and addressing information, and

the origin identifier of a message indicates an origin peer system.

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4. The method of claim 3, wherein:

comparing said second identification information with said first identification information includes:

30 comparing the origin identifier of said first message with the origin identifier of said second message, and

comparing the sequence value of said first message with the sequence value of said second message.

5. The method of claim 3, wherein:

5 said redundancy update message includes an origin identifier and a recipient identifier,

 the origin identifier of said redundancy update message indicates the origin peer system that is the same as the origin peer system indicated by the origin identifier of said first message and of said second message, and

10 the recipient identifier of said redundancy update message indicates said first peer system.

6. The method of claim 1, further comprising:

 disconnecting said first peer system from a fourth peer system;

15 building a clear redundancy message; and

 sending said clear redundancy message from said first peer system to each peer system connected to said first peer system in said peer-to-peer relay network.

7. The method of claim 6, wherein:

20 said clear redundancy message includes a recipient identifier indicating said first peer system.

8. The method of claim 6, wherein:

 said fourth peer system is said second peer system or said third peer system.

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9. The method of claim 1, wherein:

 each peer system in said peer-to-peer relay network stores a connection limit defining a number of other peer systems up to which that peer system is permitted to connect, and

30 each peer system stores a set of one or more relay rules for relaying data to other peer systems connected to that peer system.

10. The method of claim 1, wherein:

the data relayed by peer systems is update data for a network environment.

5 11. The method of claim 1, wherein:

the data relayed by peer systems is update data for an online game.

12. The method of claim 1, wherein:

at least one peer system is a network-enabled game console.

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13. The method of claim 1, wherein:

at least two peer systems are connected through the Internet.

14. A method of building a redundancy list in a peer system in a peer-to-peer relay
15 network, comprising:

sending a message including identification information from a first peer system to
a second peer system connected to said first peer system in a peer-to-peer relay network;
receiving a redundancy update message from said second peer system; and
updating a redundancy list including one or more entries;

20 wherein each entry in said redundancy list stores a recipient identifier indicating a
peer system and a message identifier, such that an entry indicates said first peer system is
not to send a message to the peer system indicated by the entry when the message
includes identification information matching the message identifier indicated by the
entry.

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15. The method of claim 14, wherein:

a message includes data to be relayed, an origin identifier, a sequence value, and
addressing information, and

the origin identifier of a message indicates an origin peer system.

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16. The method of claim 15, wherein:

the message identifier of an entry in said redundancy list indicates an origin peer system.

5 17. The method of claim 14, wherein:

said redundancy update message indicates identification information that is the same as the identification information of said message sent to said second peer system.

18. The method of claim 14, further comprising:

10 receiving a clear redundancy message including a recipient identifier indicating a third peer system; and

updating a redundancy list by removing any entries in said redundancy list indicating said third peer system as the recipient identifier of that entry.

15 19. The method of claim 18, wherein:

said third peer system is said second peer system.

20. The method of claim 14, wherein:

20 each peer system in said peer-to-peer relay network stores a connection limit defining a number of other peer systems up to which that peer system is permitted to connect, and

each peer system stores a set of one or more relay rules for relaying data to other peer systems connected to that peer system.

25 21. A peer system in a peer-to-peer relay network, comprising:

means for receiving a first message including first identification information from a first sending peer system connected to said peer system in a peer-to-peer relay network;

means for storing said first identification information;

30 means for receiving a second message including second identification information from a second sending peer system connected to said peer system in said peer-to-peer relay network;

means for comparing said second identification information with said first identification information;

means for building a redundancy update message; and

5 means for sending said redundancy update message to said second sending peer system.

22. The peer system of claim 21, further comprising:

means for building a clear redundancy message; and

10 means for sending said clear redundancy message from said peer system to each peer system connected to said first peer system in said peer-to-peer relay network.

23. The peer system of claim 21, further comprising:

means for sending a message including identification information to a recipient peer system connected to said peer system in a peer-to-peer relay network;

15 means for receiving a redundancy update message from said recipient peer system; and

means for updating a redundancy list including one or more entries;

wherein each entry in said redundancy list stores a recipient identifier indicating a peer system and a message identifier, such that an entry indicates said peer system is not
20 to send a message to the peer system indicated by the entry when the message includes identification information matching the message identifier indicated by the entry.

24. The peer system of claim 21, further comprising:

25 means for receiving a clear redundancy message including a recipient identifier indicating a disconnected peer system; and

means for updating a redundancy list by removing any entries in said redundancy list indicating said disconnected peer system as the recipient identifier of that entry;

wherein each entry in said redundancy list stores a recipient identifier indicating a peer system and a message identifier, such that an entry indicates said peer system is not
30 to send a message to the peer system indicated by the entry when the message includes identification information matching the message identifier indicated by the entry.

25. The peer system of claim 21, wherein:

said peer system stores a connection limit defining a number of other peer systems up to which said peer system is permitted to connect, and

5 said peer system stores a set of one or more relay rules for relaying data to other peer systems connected to said peer system.

26. A computer program, stored on a tangible storage medium, for use in a peer system in a peer-to-peer relay network, the program comprising executable

10 instructions that cause a computer to:

process a received first message including first identification information from a first sending peer system connected to said peer system in a peer-to-peer relay network;

store said first identification information;

15 process a received second message including second identification information from a second sending peer system connected to said peer system in said peer-to-peer relay network;

compare said second identification information with said first identification information;

build a redundancy update message; and

20 send said redundancy update message to said second sending peer system.

27. The computer program of claim 26, further comprising instructions that cause a computer to:

build a clear redundancy message; and

25 send said clear redundancy message from said peer system to each peer system connected to said first peer system in said peer-to-peer relay network.

28. The computer program of claim 26, further comprising instructions that cause a computer to:

30 send a message including identification information to a recipient peer system connected to said peer system in a peer-to-peer relay network;

process a received redundancy update message from said recipient peer system;
and

update a redundancy list including one or more entries;

wherein each entry in said redundancy list stores a recipient identifier indicating a
5 peer system and a message identifier, such that an entry indicates said peer system is not
to send a message to the peer system indicated by the entry when the message includes
identification information matching the message identifier indicated by the entry.

29. The computer program of claim 26, further comprising instructions that cause a
10 computer to:

process a received clear redundancy message including a recipient identifier
indicating a disconnected peer system; and

update a redundancy list by removing any entries in said redundancy list
indicating said disconnected peer system as the recipient identifier of that entry;

15 wherein each entry in said redundancy list stores a recipient identifier indicating a
peer system and a message identifier, such that an entry indicates said peer system is not
to send a message to the peer system indicated by the entry when the message includes
identification information matching the message identifier indicated by the entry.

20 30. The computer program of claim 26, wherein:

said peer system stores a connection limit defining a number of other peer
systems up to which said peer system is permitted to connect, and

said peer system stores a set of one or more relay rules for relaying data to other
peer systems connected to said peer system.

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